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(7,8). Whereas in rats fed reduced iron the increase in Hb and Hct levels did not occur until after day 10 of feeding, those fed ferrous sulfate showed a more rapid increase in their Hb and Hct levels, apparently because of higher assimilation of iron. A higher Hb level in rats fed bread diets as against cracker diets (diets A and C versus B and D) apparently resulted from higher intakes of iron rather than from differences in availabilities, since relative availabilities differed very little. Sodium bicarbonate, as used in cracker-making, did not appear to interfere with the availability of iron. The characteristic high availability of iron from ferrous sulfate remained unaffected when enriched flour was used in the making of crackers as in the making of bread (diets A versus B). This appeared to be the case also for reduced iron (diets C versus D). Elimination of sodium bicarbonate from the cracker formula or its addition to cracker crumbs instead of to the dough did not affect iron availability (diets D versus E and F). Apparently transformation of iron to carbonates and/or oxides which are very poorly available (7-9) did not occur during cracker-making. Availability of iron was also unaffected when iron was added directly to finished cracker crumbs instead of to the flour used (diets D versus G).

The relative order of solubility of iron, under simulated gastric conditions, showed little relationship to relative bioavailabilities. The process of cracker-making, however, did reduce the solubility of iron (Table III) since the iron in bread and also in samples in which iron was added to the cracker crumbs instead of to the flour used was appreciably more soluble. The changes in pH appeared not to affect iron availability. The data thus seem to suggest that iron in enriched soda crackers remains as well available as in enriched bread in spite of a decrease in its solubility and increased pH.

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